

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

GRAFTECH INTERNATIONAL)	
HOLDINGS INC.,)	Civil Action No. _____
)	
Plaintiff,)	
)	
vs.)	
)	
G&CS CO., LTD.)	Jury Trial Demanded
a/k/a Green & Carbon Solutions)	
)	
Defendant.)	
_____)	

COMPLAINT

GrafTech International Holdings Inc. (“GTI”) files this complaint for infringement of U.S. Patent Numbers 6,482,520; 6,982,874; and 7,276,273 (collectively, “the GTI patents”) against G&CS CO., LTD. (“G&CS”). This Court has jurisdiction over this action in accordance with the provisions of 28 U.S.C. §§ 1331, 1332, and 1338.

THE PARTIES

1. GTI is a Delaware corporation having its principal place of business at 12900 Snow Road, Parma, Ohio 44130.

2. Upon information and belief, G&CS Co., Ltd. is a Seoul, Korean corporation with its principal offices at 709, Halla Sigma Valley, 53, Gasan digital 2-ro, Geumcheon-gu, Seoul, 153-706, Korea.

JURISDICTION AND VENUE

3. This Court has jurisdiction over this action in accordance with the provisions of 28 U.S.C. §§1331, 1332, and 1338.

4. G&CS has maintained systematic and continuous contacts in this District by supplying exfoliated graphite sheets to Samsung for use in Digital Information Displays (“DIDs”) that infringe the GTI patents.

G&CS Presence In Texas

5. G&CS has also purposefully directed activities at this forum’s residents, wherein GTI’s claims arise out of such activities.

6. The infringing DIDs are used, sold, offered for sale, and imported throughout the United States, including in this District. Many of America’s largest and busiest airports such as Atlanta, Dallas/Fort Worth, and Las Vegas’ McCarran to name but a few use Samsung DIDs.

7. Samsung DIDs are found in shopping malls all across the United States.

8. G&CS has full knowledge that its exfoliated graphite sheets supplied to Samsung are being used in infringing DIDs that are used in, sold in, offered for sale in, and imported into the United States, including in this District.

9. Samsung recommends DIDs for use in information displays, outdoor billboards, control rooms, video walls, video conferencing, casino gaming, vending machines, bus shelters, menu boards, flight information displays, escalator and elevator advertising, shopping malls, electronic white boards, auditoriums, stadiums, and more. *See Exhibit A, DFW Samsung DID Installations.*

10. Samsung is the number 1 worldwide brand of professional commercial displays according to Display Search. *See Exhibit B, Samsung DID Sales Record and Projections.*

11. G&CS sells exfoliated graphite to Samsung and other customers for use in a variety of devices.

12. Because of Samsung's market share, G&CS knows that when it sells exfoliated graphite to Samsung for use in DIDs, a huge number of these devices will end up in the United States, including in this district.

13. G&CS also knows that because of the ubiquitous nature of things like shopping malls, airports, auditoriums, and stadiums in the United States there are few if any states where they will not have a significant presence.

14. Upon information and belief, Samsung DIDs are present in Plano and Frisch, at least in some QuikTrip stores in this District.

15. Venue is proper in this District under 28 U.S.C. §1391(b)(2) because G&CS products are used, offered for sale, sold, and/or imported into the United States in this District.

BACKGROUND

16. One of the principal challenges in making electronic devices smaller and faster is heat management. The ability to effectively dissipate heat from heat-generating components without harming adjacent components is critical to the development of ever-smaller and ever-thinner devices like cell phones, laptop computers, tablet computers, LCD displays, OLED displays, plasma displays, and the like.

17. GTI pioneered the use of sheets of compressed particles of exfoliated graphite to solve this problem and created the market for the use of this material for electronic thermal management.

18. The GTI sheets are thermally anisotropic; that is, heat conduction in the in-plane direction (i.e., along the length and width of the sheet) is many times greater than heat conduction in the through-plane direction.

19. The GTI graphite sheets can be produced so as to be at least as thermally conductive as copper along their in-plane while acting as a heat shield in the through-plane direction (copper or aluminum cannot), at a fraction of the weight of copper.

20. Thus, these very thin GTI graphite sheets can not only move significant heat in the desired direction but at the same time can insulate an object[s] from the heat being removed.

21. Materials like copper or aluminum cannot perform this crucial dual function especially in ever-thinner, ever-smaller electronic devices.

22. GTI graphite sheets make possible thin, high functionality cells phones such as the Apple iPhone, and others from Samsung, Motorola, Sony Ericsson, and Kyocera; thinner, brighter and lighter-weight plasma, LCD, and OLED televisions and public information displays (*i.e.*, digital information displays) available from Samsung, LG, Sony, and Sharp; and thin, lightweight laptops, netbooks, and tablets available from Samsung, Apple, Sony, Panasonic and others.

THE GTI PATENTS

23. GTI asserts three patents in this lawsuit: U.S. Patent Numbers 6,482,520; 6,982,874; and 7,276,273.

24. The first of the GTI patents is U.S. Patent No. 6,482,520 (“the ’520 Patent”) (Exhibit C), entitled “Thermal Management System” and validly issued by the PTO on November 19, 2002.

25. On July 20, 2005, a third party request for reexamination of the ’520 Patent was filed, citing prior art not previously considered by the PTO and asserting that a substantial new question of patentability of the ’520 Patent existed.

26. After consideration of the newly cited prior art and the arguments proffered by the third party requestor, the PTO issued a Certificate of Reexamination affirming the patentability of the claims of the '520 Patent (as amended) on October 24, 2007.

27. On July 24, 2007, a second third party request for reexamination of the '520 Patent was filed, again citing prior art not previously considered by the PTO and asserting that a substantial new question of patentability of the '520 patent existed.

28. After consideration of the newly cited prior art and the arguments proffered by the third party requestor, the PTO has issued a Certificate of Reexamination affirming the patentability of the claims of the '520 Patent (as amended).

29. The '520 Patent discloses and claims (as amended during the two reexaminations) a thermal management system comprising a heat source having an external surface and an anisotropic flexible graphite sheet formed of compressed particles of exfoliated natural graphite and having a planar area greater than the area of the external surface of the heat source, the flexible graphite sheet having first and second major planar surfaces and having axes of higher thermal conductivity parallel to said major planar surfaces wherein the ratio of thermal conductivity of the flexible graphite sheet parallel to said major planar surfaces to the thermal conductivity of the flexible graphite sheet transverse to said major planar surfaces is at least about 20, one of said major planar surfaces being in operative contact with the heat source.

30. The second patent is U.S. Patent No. 6,982,874 ("the '874 Patent") (Exhibit D), entitled "Thermal Solution for Electronic Devices" and validly issued by the PTO on January 3, 2006.

31. The '874 Patent discloses and claims a thermal dissipation and shielding system for an electronic device, comprising an electronic device comprising a first component which

comprises a heat source, wherein the first component transmits heat to an external surface or a second component of the electronic device; a thermal solution comprising two major surfaces, the thermal solution positioned such that one of its major surfaces is in operative contact with the first component such that it is interposed between the first component and the external surface or the second component of the electronic device, wherein the thermal solution comprises at least one sheet of compressed particles of exfoliated graphite which thermally shields the external surface or the second component of the electronic device from heat generated by the first component.

32. In early 2011 a request for reexamination of the '874 Patent was rejected as improper. On March 8, 2011, the requesting party filed a new request for reexamination of the '874 Patent citing prior art not previously considered by the PTO and asserting that a substantial new question of patentability of the '874 Patent existed.

33. GTI waived its right to file a patent owner's statement in order to be placed in a pilot program being developed by the PTO to significantly expedite the treatment of reexaminations.

34. After consideration of the newly cited prior art and the arguments proffered by the third party requester, the PTO determined that "no substantial new question of patentability" was raised and denied the Request for Reexamination on May 20, 2011.

35. Since 1981 ex parte applications for reexamination have been granted in over 90% of the requests.

36. In the space of a few months, GTI had two requests for reexam filed by unknown third parties concerning GTI patents dealing with the use of graphite sheets in electronic devices. Both were denied by the PTO before any response by GTI was filed.

37. In December of 2008, GTI instituted suit in the United States District Court for the Central District of California, Southern Division, Case No. 8:08-cv-01412 DOC-RNB. The case involved an individual and his company who, in violation of the same patents at issue here, were attempting to supply Apple Inc. compressed sheets of exfoliated graphite for use in the Apple iPhone.

38. That litigation ended in a Stipulation for Entry of Final Judgment and Permanent Injunction filed with the Court on November 8, 2009. In that document, the defendant agreed that the GTI patents in suit were valid, enforceable and that the act of offering expanded graphite sheets for sale in the United States constituted acts of direct and/or indirect infringement of at least the following claims of the GTI patents:

- i. claims 1 and 24 of the '520 patent; and
- ii. claim 11 of the '874 patent.

39. The defendants also consented to the entry of a permanent injunction.

40. The third patent asserted is U.S. Patent No. 7,276,273 (“the '273 Patent”) (Exhibit E), entitled “Heat Spreader for Display Device” and validly issued by the PTO on October 2, 2007.

41. The '273 Patent discloses and claims a display device including a liquid crystal display device which includes a plurality of heat sources, and a heat spreader which includes at least one sheet of compressed particles of exfoliated graphite having two major surfaces, the heat spreader having a surface area greater than the surface area of that part of the back surface of the display device where a localized region of higher temperature is generated, wherein substantially all of one of the major surfaces of the heat spreader is in thermal contact with the liquid crystal

display device and further wherein the heat spreader itself reduces the temperature difference between locations on the display device.

G&CS's INFRINGING ACTIVITIES

G&CS's Heat Spreader

42. G&CS describes its heat spreader sheet as "Graphene" despite its products' relatively similar characteristics to GTI's eGRAF SPREADSHIELD which embodies aspects of the GTI patents.

43. G&CS's heat spreader sheets possess relatively similar properties to GTI's eGRAF SPREADERSHIELD regarding in-plane conductivity; x-ray diffraction derived crystallite length; and physical dimensions. *See* Exhibit F, Letter to Samsung on November 14, 2011.

44. G&CS sells a product from heat spreader sheets that are manufactured by generating graphite powder from natural graphite ore, expanding the graphite powder by heating it, and compressing the expanded graphite via a roller. *See* Exhibit G, Graphite Introduction.

45. The materials safety data sheet for the heat spreader sheets sold by G&CS include a disclosure of quartz which is indicative of natural graphite, not polyimide or Graphene. *See* Exhibit H, G&CS Product Information from May 31, 2012.

G&CS's Activities with DID Manufacturers and Failed Attempts to License the GTI Patents

46. G&CS sells its products for use in LCD displays, LED lit displays, DIDs, hard disk drives, mobile telephones, notebook computers, laptop computers, and OLED notebook monitors.

47. G&CS provides finished parts made from exfoliated graphite sheets for use in thermal management in DIDs, at least one of which includes DIDs manufactured by Samsung.

48. G&CS has led DID manufacturers to believe that G&CS's exfoliated graphite sheets do not infringe the GTI patents.

49. G&CS requested a license from GTI for the GTI patents on or before September 14, 2011. *See* Exhibit I, Email and Letter from G&CS with Machine Translation dated September 14, 2011.

50. G&CS's has attempted to negotiate a license for the GTI patents.

51. GTI informed G&CS that selling exfoliated graphite sheets to DID manufacturers whose DIDs are imported into the United States constitutes infringement of the GTI patents. *See* Exhibit J, Letter to G&CS from November 2011.

52. Samsung is using G&CS supplied exfoliated graphite sheets in Samsung DIDs.

53. G&CS contacted GTI on January 19, 2012, regarding licensing the GTI patents.

54. G&CS contacted GTI on February 23, 2012, regarding licensing the GTI patents.

55. G&CS contacted GTI on February 26, 2012, regarding licensing the GTI patents.

56. On April 1, 2012, G&CS provided a license terms sheet for certain GTI patents.

57. On April 14, 2012, G&CS suggested that Samsung personnel arbitrate a license for the GTI patents.

58. On August 3, 2012, G&CS, through its U.S. counsel, threatened to undertake litigation in the United States and/or reexaminations before the United States Patent and Trademark Office against the GTI patents if a license for the GTI patents was not given. *See* Exhibit K, Letter from G&CS U.S. Counsel dated August 3, 2012.

59. On August 3, 2012, G&CS, through its U.S. counsel, stated "G&CS can provide evidence and arguments of invalidity to GrafTech's competitors and customers who would gladly

use them against GrafTech. However, G&CS is much more interested in discussing a reasonable license arrangement with GrafTech rather than taking such actions.” *See* Exhibit K.

60. On August 3, 2012, G&CS, through its U.S. counsel, stated “G&CS has adopted a policy that it will supply its products only to GrafTech’s current customers until there is a meaningful resolution with GrafTech. With this policy, G&CS thinks that it will be difficult for GrafTech to take legal actions against G&CS.” *See* Exhibit K.

61. On August 20, 2012, G&CS, through its U.S. counsel, again contacted GTI to negotiate a license of the GTI patents. *See* Exhibit L, Letter from G&CS U.S. Counsel dated August 20, 2012.

62. On August 20, 2012, G&CS, through its U.S. Counsel, stated, “my previous letter did not say ‘G&CS will not be soliciting companies who are not customers of GrafTech.’ Please note that G&CS will continue its marketing efforts to anyone who is interested in any of its products. Whether or not they are GrafTech’s current customers for the time being, however, G&CS will avoid supplying its products to the companies who are not using GrafTech’s graphite products.” *See* Exhibit L.

63. Representatives from G&CS met with representatives of GTI in Los Angeles, California, on September 14, 2012, to discuss licensing the GTI patents.

64. A license agreement could not be reached between GTI and G&CS, and G&CS continues to infringe the GTI patents.

COUNT I - PATENT INFRINGEMENT OF THE '520 PATENT

65. GTI hereby re-alleges and incorporates by reference the allegations of paragraphs 1 through 64 of this Complaint.

66. G&CS has infringed and is infringing the '520 Patent under 35 U.S.C. § 271(b) by actively inducing manufacturers of DIDs to infringe the '520 Patent.

67. G&CS sells heat spreader sheets to Samsung for use in Samsung DIDs knowing that the Samsung DIDs are used in, sold in, offered for sale in, and imported into the United States.

68. Since at least January 12, 2011, G&CS has had knowledge of the '520 Patent.

69. G&CS has supplied and continues to supply exfoliated graphite sheets to Samsung, knowing that the material would be used to infringe the '520 Patent.

70. Samsung DIDs are LCD display devices that incorporate G&CS's exfoliated graphite sheets and Samsung's DIDs are directly infringing the '520 patent.

71. One of the multiple ways Samsung's actions constitute direct infringement is in how Samsung is using G&CS's exfoliated graphite in direct operative contact with the heat source of its DIDs.

72. Additionally, G&CS has infringed and is infringing the '520 Patent under 35 U.S.C. § 271(c) by contributing to the infringement of the '520 Patent.

73. G&CS's heat spreaders have no substantial noninfringing uses and are especially made for use in infringing the '520 Patent.

74. Alternatively, G&CS's infringing activities constituted indirect infringement under the doctrine of equivalents under both 35 U.S.C. §271(b) and (c).

75. G&CS will continue to induce the infringement of, and contributorily infringe, the '520 patent unless enjoined by the Court.

76. G&CS is or has been, at all times relevant to this action, fully aware of and have or had actual knowledge of the '520 Patent.

77. G&CS has made profits from its infringement of the '520 Patent and GTI has suffered damages for which it is entitled to relief under 35 U.S.C. § 284.

78. G&CS's act of infringing the '520 Patent is or was deliberate and willful and will continue unless enjoined by this Court.

79. As a result, the deliberate and willful nature of G&CS's act of infringing the '520 Patent, such damages should be increased to the maximum amount allowed by law, including an award of attorneys' fees.

COUNT II - PATENT INFRINGEMENT OF THE '874 PATENT

80. GTI hereby re-alleges and incorporates by reference the allegations of paragraphs 1 through 79 of this Complaint.

81. G&CS has infringed and is infringing the '874 Patent under 35 U.S.C. § 271(b) by actively inducing manufacturers of DIDs to infringe the '874 Patent.

82. G&CS sells heat spreader sheets to Samsung for use in Samsung DIDs knowing that at least the Samsung DIDs are used in, sold in, offered for sale in, and imported into the United States.

83. Since at least January 12, 2011, G&CS has had knowledge of the '874 Patent.

84. G&CS has supplied and continues to supply exfoliated graphite sheets to Samsung, knowing that the material would be used to infringe the '874 Patent.

85. Samsung DIDs are LCD display devices that incorporate G&CS's exfoliated graphite sheets and Samsung's DIDs are directly infringing the '874 patent.

86. One of the multiple ways Samsung's actions constitute direct infringement is in how Samsung is using G&CS's exfoliated graphite in direct operative contact with the heat source of its DIDs.

87. Additionally, G&CS has infringed and is infringing the '874 Patent under 35 U.S.C. § 271(c) by contributing to the infringement of the '874 Patent.

88. G&CS's heat spreaders have no substantial noninfringing uses and are especially made for use in infringing the '874 Patent.

89. Alternatively, G&CS's infringing activities constituted indirect infringement under the doctrine of equivalents under both 35 U.S.C. §271(b) and (c).

90. G&CS will continue to induce the infringement of, and contributorily infringe, the '874 patent unless enjoined by the Court.

91. G&CS is or has been, at all times relevant to this action, fully aware of and have or had actual knowledge of the '874 Patent.

92. G&CS has made profits from its infringement of the '874 Patent and GTI has suffered damages for which it is entitled to relief under 35 U.S.C. § 284.

93. G&CS's act of infringing the '874 Patent is or was deliberate and willful and will continue unless enjoined by this Court.

94. As a result, the deliberate and willful nature of G&CS's act of infringing the '874 Patent, such damages should be increased to the maximum amount allowed by law, including an award of attorneys' fees.

COUNT III - PATENT INFRINGEMENT OF THE '273 PATENT

95. GTI hereby re-alleges and incorporates by reference the allegations of paragraphs 1 through 94 of this Complaint.

96. G&CS has infringed and is infringing the '273 Patent under 35 U.S.C. § 271(b) by actively inducing manufacturers of DIDs to infringe the '273 Patent.

97. G&CS sells heat spreader sheets to Samsung for use in Samsung DIDs knowing that at least the Samsung DIDs are used in, sold in, offered for sale in, and imported into the United States.

98. Since at least January 12, 2011, G&CS has had knowledge of the '273 Patent.

99. G&CS has supplied and continues to supply exfoliated graphite sheets to Samsung, knowing that the material would be used to infringe the '273 Patent.

100. Samsung DIDs are LCD display devices that incorporate G&CS's exfoliated graphite sheets and Samsung's DIDs are directly infringing the '273 Patent.

101. One of the multiple ways Samsung's actions constitute direct infringement is in how Samsung is using G&CS's exfoliated graphite in direct operative contact with the heat source of its DIDs.

102. Additionally, G&CS has infringed and is infringing the '273 Patent under 35 U.S.C. § 271(c) by contributing to the infringement of the '273 Patent.

103. G&CS's heat spreaders have no substantial noninfringing uses and are especially made for use in infringing the '273 Patent.

104. Alternatively, G&CS's infringing activities constituted indirect infringement under the doctrine of equivalents under both 35 U.S.C. §271(b) and (c).

105. G&CS will continue to induce the infringement of, and contributorily infringe, the '273 patent unless enjoined by the Court.

106. G&CS is or has been, at all times relevant to this action, fully aware of and have or had actual knowledge of the '273 Patent.

107. G&CS has made profits from its infringement of the '273 Patent and GTI has suffered damages for which it is entitled to relief under 35 U.S.C. § 284.

108. G&CS's act of infringing the '273 Patent is or was deliberate and willful and will continue unless enjoined by this Court.

109. As a result, the deliberate and willful nature of G&CS's act of infringing the '273 Patent, such damages should be increased to the maximum amount allowed by law, including an award of attorneys' fees.

PRAYER FOR RELIEF

GTI respectfully prays for the following relief:

A. That G&CS and all of its subsidiaries, affiliates, officers, agents, servants, employees, attorneys, and their heirs, successors and assigns, and all persons acting in concert or participation with it and each of them, be immediately enjoined and restrained, preliminarily and permanently, without bond, from manufacturing, importing, distributing, selling or offering for sale products manufactured that directly and/or indirectly infringe (literally or under the doctrine of equivalents) the GTI patents; and deliver to GTI for destruction all products that infringe the GTI patents complete with such products instructions, technical data sheets, and other written literature;

B. A determination that G&CS has infringed and is infringing one or more claims of the '520 Patent;

C. A determination that G&CS has infringed and is infringing one or more claims of the '874 Patent;

D. A determination that G&CS has infringed and is infringing one or more claims of the '273 Patent;

E. An award of damages suffered by GTI as a result of the conduct of G&CS complained of herein, including but not limited to damages for patent infringement pursuant to

35 U.S.C. § 284 in an amount to be determined at trial, including lost profits, but in no event less than a reasonable royalty for infringement of the GTI patents;

F. A determination that this case is exceptional pursuant to provision of 35 U.S.C. § 285;

G. All damages available for G&CS's willful patent infringement, including without limitation, attorneys' fees and treble damages under 35 U.S.C.A. §§ 284 and 285;

H. Prejudgment and post-judgment interest; and

I. Such other, further, or different relief as this Court may deem just and proper.

DEMAND FOR TRIAL BY JURY

GTI, under Rule 38 of the Federal Rules of Civil Procedure, respectfully demands a trial by jury of any issues triable of right by a jury.

Dated: November 14, 2012

Respectfully submitted,

BUETHER JOE & CARPENTER, LLC

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